S/046/60/006/01/26/033
B008/B011

AUTHORS: Sokolov, A. D., Shur, Ya. S.

TITLE: On the Relationship Between Magnetic Properties and
               Sensitivity of Nickel - Zinc - Ferrite Magnetostriction
               Receivers

PERIODICAL: Akusticheskiy zhurnal, 1960, Vol. 6, No. 1, pp. 131-133

TEXT: The relation $e_{max} \sim \mu_o \dfrac{\lambda_s}{I_s}$ used for the estimation of sensitivity

was experimentally checked on ferrite receivers. e_{max} - peak value of the
electromotive force which is induced in the receiver winding under a given
sound pressure and with an optimum magnetization; μ_o - initial magnetic
permeability of the receiver material; λ_s - saturation magnetostriction;
I_s - saturation magnetization. Measurements were made on samples in the
form of ferrite rings and bars of various composition (Table). The measure-
ment results are shown in the table and in the figure. The figure shows
that the relation mention is almost linear. The deviations may have been

Card 1/2

On the Relationship Between Magnetic Properties   S/046/60/006/01/26/033
and Sensitivity of Nickel - Zinc - Ferrite   B008/B011
Magnetostriction Receivers

partly caused by the fact that the receivers had not exactly the same geo-
metrical dimensions. Moreover, measurements of the magnetic characteristics
of the material were inaccurate. The results obtained confirm the accuracy
of the relation for nickel- and nickel-zinc ferrites. Hence it is possible,
on the strength of static magnetic characteristics, to undertake a compara-
tive estimation of the sensitivity of nickel-zinc-ferrite receivers.
There are 1 figure, 1 table, and 5 references: 4 Soviet and 1 English.

ASSOCIATION: Institut fiziki metallov AN SSSR, Sverdlovsk
             (Institute of Metal Physics AS USSR, Sverdlovsk)

SUBMITTED: November 10, 1958

                                                $\sqrt{C}$

Card 2/2

S/126/61/011/005/004/015
E073/E535

AUTHORS: Sokolov, A. D. and Shur, Ya. S.

TITLE: Influence of Small Additions of Cobalt on the
              Hysteresis Loop of Nickel-Zinc Ferrites

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.11,
              No.5, pp.681-685

TEXT: Various authors have observed that for some
magnetically soft ferrites the hysteresis loop is rectangular if
remagnetization is by means of weak fields.   The physical nature
of this phenomenon has so far not been clarified.   The influence
of slight additions of cobalt was investigated.   Nickel-zinc
ferrite specimens of four differing compositions with and without
cobalt additions were tested.   The CoO additions were 0.5, 1, 2
and 3%; differences in the nickel and zinc contents were slight.
The specimens were in the shape of rings 37 mm external, 30 mm
internal diameter with a height of $1\frac{1}{2}$ mm.   From the same
materials bar specimens 4.3 x 4.3 mm^2 and 60 mm long were
produced.   On the ring specimens the magnetization curves and
the hysteresis loops were determined by means of a ballistic

Card 1/3

Influence of Small Additions of S/126/61/011/005/004/015
                                         E073/E535

method and,in addition,the dynamic hysteresis loops at 50 c.p.s.
were measured on some of the specimens by means of an electron-
beam ferrometer. The saturation magnetization was determined on
the bar specimens. The obtained results indicate that specimens
with slight additions of CoO showed maximum values of B_r/B, which
were higher than those obtained for specimens without   CoO but
otherwise of equal compositions.   (B_r - residual induction,
B - maximum induction). The most rectangular hysteresis loop was
obtained for nickel-zinc ferrites with 1 to 2% CoO; specimens of
equal composition containing 0.5% CoO had somewhat lower B_r/B
values and specimens with 3% CoO additions had still lower
B_r/B values. The highest B_r/B values (90 to 92%) were obtained
for nickel-zinc ferrites with 1 to 2% CoO; the coercive force of
the respective specimens was H_c = 1.1-1.3 Oe and for H = $5H_c$, B
was of the order of 3700-3800 gauss.   Slight changes in the NiO
and ZnO contents, without any change in the CoO content, led to a
drop in the ratio B_r/B and the coercive force (B_r/B = 88.5%,
H_c = 0.8 Oe). Some of the specimens were subjected to thermo-
magnetic treatment in longitudinal and transverse magnetic fields
(at 620°C with slow cooling to room temperature.in the magnetic

Card 2/3

Influence of Small Additions of ...   S/126/61/011/005/004/015
E073/E535

field at a rate below 50°C/hour). The applied magnetic field was
of 20 Oe. This treatment did not bring about any change in the
magnetic properties. The results obtained in measuring the
dynamic hysteresis loops were in full agreement with the results
obtained under static conditions. Thus, the experiments show that
as a result of additions of 1-2% CoO to some nickel-zinc ferrites,
the hysteresis loops will become "spontaneously" rectangular.
There are 5 figures, 1 table and 6 references: all non-Soviet.
The references to English-language publications read as follows:
Littmann, M.F. Electronic Engineering, 1952, 71, 792; Brown, O.R.,
Allers-Schoenberg, E. Electronics, 1953, 26, 146.

ASSOCIATION: Institut fiziki metallov AN SSSR
              (Institute of Physics of Metals AS USSR)

SUBMITTED: December 20, 1960

Card 3/3

L 35341-66   EWT(m)/EWP(j)/T   IJP(c)   WW/JWD/RM

ACC NR: AP6009871   (A)   SOURCE CODE: UR/0413/66/000/004/0068/0068

INVENTOR: Petrov, K. D.; Sokolov, A. D.; Kagucheva, Ye. S.; Timofeyev, A. V.; *19*
Slozhenikina, N. M.; Soldatova, Ye. A.   *B*

ORG: None

TITLE: Preparation of molding material with novolak resin. Class 39, No. 178978

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 68

TOPIC TAGS: molding material, novolak *resin*

ABSTRACT: An Author Certificate has been issued describing a method using dry rolling
for making a molding material from novolak resin and a nitrogen-containing organic
compound. To extend the variety of molding materials with high dielectric properties
anhydroformaldehyde aniline is suggested as the oxygen-containing organic compound.
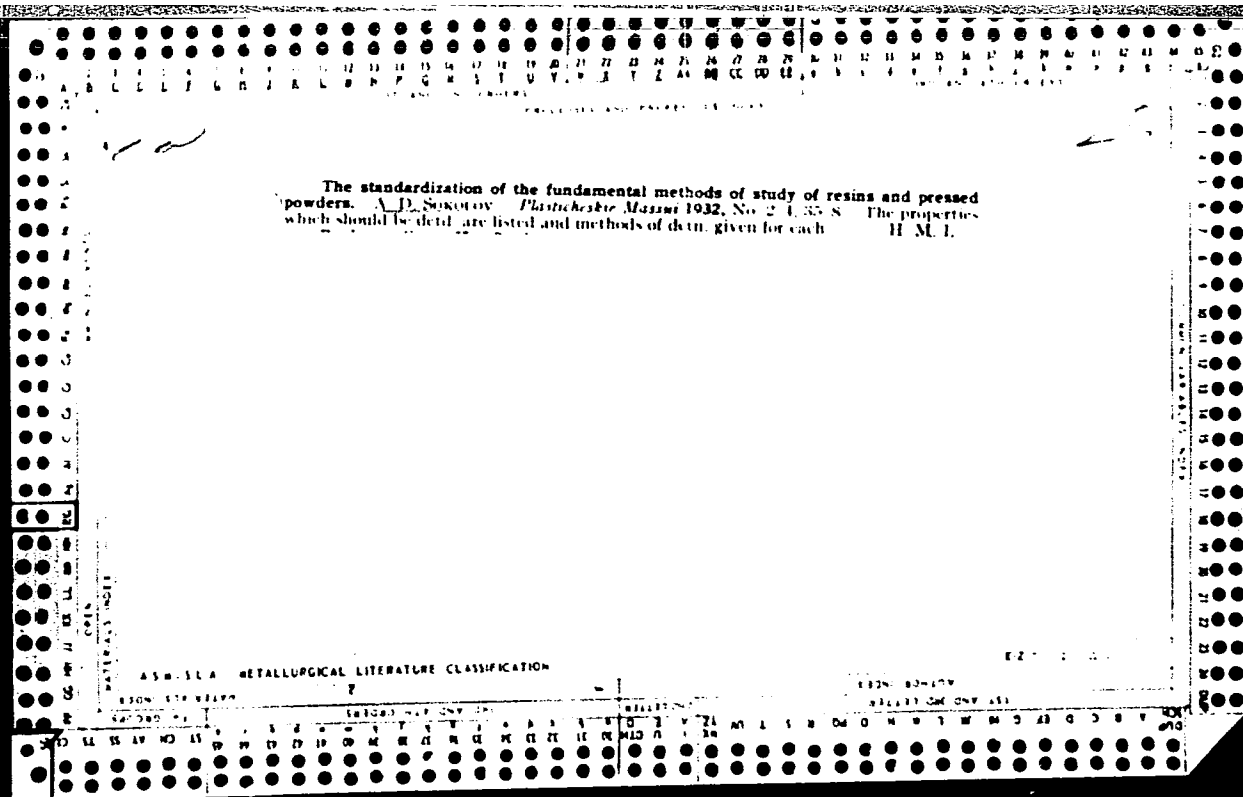[LD]

SUB CODE: 11/ SUBM DATE: 14Jul62

Card 1/1

Potentiometric control of the degree of mercerization of the cellulose. S. N. Ushakov and A. D. Sokolov. Zhur. Prikladnoi Khimii 3, 31-46(1930). Alky. of the dark colored liquors from the mercerization process is conveniently detd. by electrometric titrations. Expert labor and careful handling of the equipment are, however, required. Electrometric titrations showed that the rate of circulating the alk. liquors is of primary importance in shortening the reaction time. The present plant design should be improved so as to reduce the waste of alkalies. V. KALICHEVSKY

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

Condensation of formaldehyde with the terpenes of the oil of Siberian fir. S. N. Ushakov and A. D. Sokolov. *Zhur. Prikladnol Khimii* 3, 47-67(1930).—Borneol, camphane and pinene were isolated from the oil of Siberian fir and condensed with HCHO. Bornyl and isobornyl chlorides obtained from the fraction b. 156-62° condense with HCHO in presence of FeCl$_3$ and form black resin-like products which are sol. in C$_6$H$_6$ and almost completely sol. in Et$_2$O and gasoline. HCl is evolved. Condensation in presence of H$_2$SO$_4$ yields dark brown, resin-like substances sol. in C$_6$H$_6$ and practically insol. in Et$_2$O and gasoline. Condensation of *l*-borneol with HCHO yields: (a) on heating with weak acids or with small amts. of concd. acids—cryst. methyleneglycol di-*l*-bornyl ether; (b) on heating with large amts. of concd. acids—oily substances; (c) in presence of large amts. of concd. H$_2$SO$_4$ and in the cold—dark resin-like products. Condensation of the oil or its fractions in presence of H$_2$SO$_4$ yields technically valuable pitches (110% yield on the amt. of oil used) which are sol. in C$_6$H$_6$ and might be utilized as lacquers.

V. KALICHEVSKY

A S a - S C A   METALLURGICAL LITERATURE CLASSIFICATION

A new synthetic resin, neoleikorite. A. D. Sokolov. *Plastichestie Massui* 1932, No. 2 4, 34 5. —The manuf. of a phenol-aldehyde resin contg. a large excess of CH₂O is described.

H. M. Leicester

METALLURGICAL LITERATURE CLASSIFICATION

The standardization of the fundamental methods of study of resins and pressed powders. A. D. Sokolov. *Plasticheskie Massui* 1932, No. 2 4, 35 8. The properties which should be detd. are listed and methods of detn. given for each. H. M. L.

A S M - S L A   METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

The influence of the conditions of condensation upon the properties of ammoniacal phenol-aldehyde resins. A. D. Sokolov and O. P. Plaid. *Plastichaskie Massui* 1933, 13-16; *Chem. Zentr.* 1934, II, 2762; cf. *C. A.* 28, 3063¹, 6579¹.—Four parts of 25% aq. NH_3 to 100 parts PhOH were used for condensation. With increasing temp. of condensation (60-90°) the d. and viscosity of the resins decreased, as did the amt. of free PhOH. Likewise the resin yield and the velocity of polymerization increased with the temp.; the drying time decreased. A low condensation temp. is recommended for the production of resins of low viscosity. The same effect is obtained by 3 hrs.' condensation at 70-8° and by 1 hr. at 80-5°.

W. A. Moore

AS.M.-SLA METALLURGICAL LITERATURE CLASSIFICATION

Resistance of phenol-aldehyde resins (bakelites) to chemical agents. A. D. Sokolov. *Plasticheskie Massui* 1933, No. 3, 1-6; *Chimie & industrie* 31, 657 8.—The properties of synthetic resins depend to a considerable extent on the conditions of prepn. and subsequent treatment. Time and temp. of condensation have but little effect on the chem. resistance of phenol-aldehyde resins; but the choice of condensing agent is of great importance. When an acid condensing agent is used, even if it is subsequently neutralized with alkali, resins having a relatively low resistance to chem. agents are obtained; their resistance is also unfavorably influenced by the presence of alc. When the proportion of condensing agent does not exceed 10%, it has but a minor influence on the chem. resistance of the resin; above this proportion, increase in the amt. of condensing agent increases the hygroscopicity and decreases the resistance of the resins to dil. acids. Cresol resins have a lower resistance to acids. Decrease in the proportion of CH$_2$O in the reaction mixt. considerably decreases the general resistance of the resins to chem. agents. It is perfectly possible to obtain acid-resisting

bakelite resins, but abs. resistance to alkalies is yet to be obtained.   A. Papineau-Couture

The viscosity of solutions of phenol-aldehyde resins. A. D. Sokolov, S. P. Piuld and N. V. Grigor'eva. *Plastichekie Massui* 1934, No. 3, 32-7.—The viscosities of solns. of such resins increased with concn., but most of the empirical formulas assumed for compds. of high mol. wt. do not hold. That of Arrhenius can be applied in the limits of 40-60% solns. The graph of temp. against log of the viscosity is a straight line. H. M. Leicester

A.S.M. SLA METALLURGICAL LITERATURE CLASSIFICATION

SOKOLOV, A.D.

PROCESSES AND PROPERTIES A.S.K

The effect of the method of pressing on some properties of Monolite press powder. A. D. Sokolov, D. G. Suichev and L. I. Agntzeva. *Plasticheskie Massui* 1934, No. 4, 36-8.—Best results are obtained if moderate pressure is used at 100-80°. Longer heating improves the thermal stability of the resin.　　　　H. M. Leicester

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION

Faolite, a new chemically stable material. A. D. Sokolov and M. M. Bukhartzev. *Plasticheskie Massui* 1934, No. 5, 7-10.—Faolite is very similar in properties to Haveg, and is prepd. from a PhOH-CH₂O resin and asbestos fibers.

H. M. Leicester

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Some questions in the production of phenol plastics.
A. D. Sokolov, O. F. Piatd and N. V. Grigor'eva. Narod-
nyĬ Komissariat Tyazheloĭ Prom. S. S. S. R., Nauch.-
Issledovatel. Inst. Plasticheskikh Mass., Plasticheskie
Massy, Sbornik 2, 170 (80(1937).--The presence of MeOH
slows the condensation of PhOH and CH₂O with alk.
catalysts. As resol condensation proceeds, the sp. gr.
of the resin layer and the log of its viscosity increase di-
rectly with time. The latter is the best property for
following the reaction.   H. M. Leicester

METALLURGICAL LITERATURE CLASSIFICATION

Ca

PROCESSES AND PROPERTIES INDEX

Di- and tri-sodium phosphates. Ya. M. Shmekker and
A. D. Sokolov. Russ. 54,243, Nov. 30, 1938. Super-
phosphate is treated with Na_2SO_4. The NaH_2PO_4 formed
is treated with $Ca(OH)_2$ and filtered. Na_3PO_4 is crystd.
from the filtrate. The residue treated with NaH_2PO_4
and filtered yields Na_2HPO_4.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

The stability of phenolic plastics. II. The water-resistance of articles made from molding powders. A. D. Sokolov, A. V. Kon and N. S. Zarubina. *Plasticheskie Massy, Sbornik Statei* 1939, 141-5; cf. C. A. 35, 3734⁹, 4519. All imported samples of phenolic resins reached their limit of swelling in water after 15-24 months, after which their wt. and size remained unchanged. The increase in wt. was from 5-8.5% and the elongation 1-2%. The semidry and dry methods cannot be used for the production of monolithic articles. Powders prepd. by lacquer and emulsion methods were most resistant to water. Excellent results were obtained in milling novolac and resol resins (the limit of swelling and the elongation were 0.5 and 1.4%, resp., after 36 months). Among nitrocellulose plastics, benzylcellulose, "FD mass" and cast carbolite F. benzylcellulose swells the least (0.85%). **III. The behavior of articles from molding powders (phenolic plastics) in air of various humidities.** A. D. Sokolov and N. S. Zarubina. *Ibid.* 153 67.—The samples swelled faster in water than in moist air. The limit of swelling was approx. 10% in both cases. The increase in size was 1.0-1.5%. There is a definite limit of swelling and drying for each degree of humidity. At 0-80% humidities the max. swelling is 0.0571 (H = 38.6), where H is the relative humidity.

For each humidity there is an equil. at which no changes in the size or wt. take place. The higher the initial moisture content of the powder the greater the humidity of the air at the equil. By selecting the initial moisture content of the powder it is possible to produce articles that do not change in wt. and size at humidities to which the object is subjected. The surface resistance is 10⁹ ohms for a sample in air satd. with water vapor, and 10¹⁴-10¹³ ohms for a sample in absolutely dry air. **IV. The chemical stability of resites prepared with different proportions of phenol and formaldehyde.** A. D. Sokolov and N. S. Zarubina. *Ibid.* 167 83.— Resins prepd. from 4, 6, 8, 10 and 12 mols. of HCHO to 5 mols. of PhOH or cresol were tested for resistance at room temp. to 50% H₂SO₄, HCl (d. 1.19), 10% Na₂CO₃, 5% NaOH, water and EtOH. The stability of the resites is different in different reagents. Resites are more resistant to acid than are novolac masses. Phenolic resites are more acid resistant than are the cresolic resites. Cresolic resites are more stable to the action of water and Na₂CO₃ solns. Samples prepd. with excess HCHO (in particular the novolac mass with 20% urotropine) had max. resistance to alkali and alc. Resites and novolac masses prepd. with an insufficient amt. of HCHO deteriorated rapidly under the action of alc. The ratio of the components has no effect on the resistance of cresolic resites to alc. Acids had very little effect on phenolic resites from approx. equimol. proportions of the components. Through *Khim. Referat. Zhur.* 1940, No. 3, 105-7. W. R. Henn

CA

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Chemically stable resol varnishes. A. D. Sokolov, L. I. Agntseva and V. A. Anan'eva. *Plastmassy, Sbornik Statel* 1939, 184-91; *K'him. Referat. Zhur.* 1940, No. 4, 90-7.—Addn. of 30% of kaolin to liquid resol resin produces varnishes that are elastic and adhere well to Fe and Al. To alc. solns. of resols must be added, besides kaolin, plasticizers (diethyl phthalate or tritolyl phosphate in amts. of 30% of the wt. of the resin). The chem. stability of such varnishes is unsatisfactory. Good chemically stable varnishes were obtained from alc. solns. of dried resol or dehydrated resol resin contg. 20-5% of phenol, cresol or naphthalene. Naphthalene or cresol increases the adhesive properties of varnish and makes possible rapid bakelizing of the films at 140° (3-5 hrs.). A varnish resistant to 50% H_2SO_4, tech. HCl and alc. is prepd. by mixing 300 parts of 50% alc. soln. of dried resol with 30 parts of kaolin and 15 parts of naphthalene dissolved in benzene.

W. R. Henn

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Investigation of the properties and conditions for producing Novolac masses. A. D. Sokolov, S. I. Kirillova and A. V. Kupler. *Plasticheskie Massy, Sbornik Statei* 1939, 191-203; *Khim. Referat. Zhur.* 1940, No. 3, 107.—HCHO and PhOH in the ratios 24:100, 26:100 and 28:100 were condensed, with 0.3% HCl (d. 1.19) of the wt. of PhOH as catalyst. The products were dried in a Cu kettle with a mixer and in a flask with a mixer, on an oil bath heated to 170-80°. Water was removed at 99-100°, and the temp. of the resin then increased gradually to the temp. of the bath. The "final dropping temp." increases with increase of HCHO content. By standard drying, a standard product can be obtained without analyzing samples of the resin, but only by controlling the temp. during the drying process. Open drying reduces the amt. of free phenol to 0.2%. By drying in the flask the yield of the resin can be brought to 100%. For low-mol. resins (with ratios 24:100 and 26:100) there is a direct linear relation between the η of the 50% alc. soln. and the dropping temp. of the resin. Increasing the amt. of HCHO increases sharply the η of the resin soln. Decrease of the percentage of free phenol during open drying is directly proportional to the increase of the dropping temp. At equal dropping temps. a larger content of phenol is found in resins prepd. with large amts. of HCHO. The dropping temp. increases during the drying in the flask, but the content of free phenol remains unchanged. For detg. the softening temp. of resin, optimum results in speed, convenience and accuracy are obtained by a modified Ubbelohde method.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

13

New transparent molding material. A. D. Sokolov and N. S. Zarubina. *Org. Chem. Ind.* (U. S. S. R.) 7, 228-31 (1940). Phenol-formaldehyde resins without fillers can be used for prepg. clear molding materials of the neoresite type. It was established that resol powders of high flow produce articles with low mech. properties. Satisfactory mech. properties are obtained by pressing about 3 min. for each mm. thickness. Lower pressing time results in reduced mech. strength. The mech. strength can also be improved by addnl. heating after pressing or by reducing the moisture in the powder. With novolac resins it is possible to obtain high mech. strength with powders having a Raschig flow of over 180 mm. Pressing time should be ½ min. for each mm. of thickness to obtain good mech. strength and 1-1.5 min. per mm. to obtain a good surface. Mech. strength does not vary with increased pressing time or with addnl. heating after pressing. Specimens prepd. with 10% urotropine showed the best mech. properties. The expts. are to be extended on an industrial scale.   B. Z. Kamich

A S 0 - S L A   METALLURGICAL LITERATURE CLASSIFICATION

CA

13

Chemical stability of phenolic plastics. A. D. Sokolov and N. S. Zarubina. *Org. Chem. Ind.* (U. S. S. R.) 7, 452-6(1940); cf. *C. A.* 35, 3734.--Tests were made on the stability of textolite in water and steam, in 10 and 50% H_2SO_4 and in 37% HCl at room temp. and at 80°. Textolite prepd. from PhOH derived from peat was tested at room temp. only. The results do not agree with literature data. The results show that the textolite is completely destroyed in concd. HCl at ordinary temp. while at 80° it is unable to resist even dild. 10% H_2SO_4. Textolite may be used with sufficient reliability for definite periods in dil. acids at room temp. It may also be used in water and steam at room temp. and at 80°. B. Z. K.

13

Plastics research. A. D. Sokolov. *Org. Chem. Ind.*
(U. S. S. R.) 7, 581-4 (1940). A brief review on research
problems and accomplishments at the Sci.-Res. Inst.
Plastic Materials in Russia.   B. Z. Kamich

A S S I A   METALLURGICAL LITERATURE CLASSIFICATION

SOKOLOV, A. D.

The chemical stability of phenol plastics. V. cause of different behavior of resins in acids and other agents. A. D. Sokolov, N. S. Zarubina and K. D. Petrenko. *J. Applied Chem.* (U. S. S. R.) 13, 1687-98(in French, 1693)(1940).--Resins prepd. from 5 mols. of PhOH and 10 mols. and 6 mols. of HCHO were treated with 25, 50, 75 and 96% H₂SO₄, 10, 20 and 30% HCl, AcOH of various concns. and water. The resins did not change in wt. in 20-30% HCl, in 25-50% H₂SO₄, nor in 70% AcOH. No change in wt. was observed in resins (5:6 mols.) treated with 30% CaCl₂ soln. nor exposed to air contg. 62-70% moisture. These equil. points could be shifted by thermal treatment to the region of more concd. acids, or by an addn. of water to more dil. acids. Prolongation of press treatment of resins decreased the free PhOH content in resins and increased the water content. Therefore, the formation of resins was accompanied with sepn. of water (polycondensation). The behavior of resins in acids and CaCl₂ was conditioned by the water vapor pressure over these solns. Thus, resins in solns. of high vapor pressure swelled; in solns. of low vapor pressure, they lost wt.

A. A. Petrova

SOKOLOV,A.D.; SHAPIRO,L.Ya.

Use of infrared rays in the plastics industry. Khim.prom.no.1:21-23 Ja'47.   (MIRA 8:12)

1. Nachal'nik nauchno-issledovatel'skoy laboratorii Zavod "Karbolit" (for Sokolov). 2. Rukovoditel' gruppy laboratorii Zavod "Karbolit" (for Shapiro)
        (Plastics) (Infrared rays--Industrial applications)

SOKOLOV A. D.

FA 23T6

2376

USSR/Electricity
    Insulation, Electric
    Asbestos

Sep 1947

"Ways of Improving the Electric Insulating Properties of Durable Pressed Asbestos Materials," A. D. Sokolov, E. P. Bakrina, 5 pp

"Vestnik Elektro Promyshlennosti" No 9

The first use of plastic impregnated with asbestos was in phenol-anhydryl pressed materials. The first hot pressing of asbestos materials showed that the resulting product had very low durability. This was solved to some extent by the use of long asbestos fibers. The author states that it is possible to

USSR/Electricity   (Contd)
    Insulation, Electric
    Asbestos

Sep 1947

increase the disruptive charge of durable phenol-aldehyde asbestos mass up to 1 kv per millimeter. Preparation by dry-rolling increases the disruptive charge 10-20 times. Experiments were conducted at the Research and Investigation Laboratory of "Karbolit" Factory.

NOVIKOV, D.P.; SOKOLOV, A.D.

Scientific and technical conference on plastic materials held in
Stockholm. Khim.nauka i prom. 2 no.5:642-643 '57.   (MIRA 10:12)
(Stockholm--Plastics--Congresses)

S/191/60/000/003/013/013
B016/B054

AUTHORS: Militskova, Ye. A., Grinevich, K. P., Sokolov, A. D.,
             Zyabkin. A. P.

TITLE: Liquid Organosilicon Polymers Used as Lubricants for Molds
             in Casting and Molding of Thermoplastics

PERIODICAL: Plasticheskiye massy, 1960, No. 3, pp. 72 - 73

TEXT: The authors report on their experiments concerning the use of
liquid organosilicon polymers to lubricate molds for thermoplastics.
They used liquids No.3, No.5Л (5L), and ГКЖ -94 (GKZh-94) (polyethyl
siloxane), as well as three polymethyl-siloxane liquids (No. 1-3) of
different viscosities. These liquids were used as lubricants in proc-
essing colorless and filled polystyrene, caprone, polymethyl etrols,
methacrylate, and copolymers of methyl methacrylate with styrene. No.5
and GKZh were manually applied to the molds. The latter liquid yielded
better results: After a single treatment, it was possible to cast 25-60
pieces of different materials in the mold. No.3 and the polymethyl-
siloxane liquids were sprayed onto the molds. An admixture of easily

Card 1/2

S/191/60/000/004/009/015
B016/B058

AUTHORS: Yezhkova, V. S., Militskova, Ye. A., Sokolov, A. D.

TITLE: Application of Organic Glass in Illumination Engineering
                and of Other Materials for the Production of Illumination
                Devices

PERIODICAL: Plasticheskiye massy, 1960, No. 4, pp. 42-45

TEXT: The authors describe plastic light diffusers of various designs
and shapes, as well as colored signal glasses and lamps. They mention the
production processes used and discuss in detail the application of organic
glass in illumination engineering. Addition of low-molecular polystyrene
(molecular weight: 10,000 - 18,000) is recommended for obtaining a
uniformly semitransparent opal glass. The manufacturing method of this
polystyrene was elaborated at the central laboratory of the Kuskovskiy
khimicheskiy zavod (Kuskovo Chemical Plant). A glass of this type with
cross-linked structure and increased heat resistance was developed at the
"Karbolit" Plant. The thermosetting paste for its manufacture was develop-
ed at the НИИПП (Scientific Research Institute of Plastic Products) from

Card 1/2

87878

S/191/60/000/005/003/020
B004/B064

15.8105

AUTHORS: Militskova, Ye. A., Sokolov, A. D.

TITLE: A New Heat-resistant Casting Material on the Basis of
             Acetobutyrate Cellulose and Polymethyl Acrylate

PERIODICAL: Plasticheskiye massy, 1960, No. 5, pp. 6 - 9

TEXT: The authors aimed at producing casting material from acetobutyrate
cellulose and acryl polymers of increased heat resistance. In the intro-
duction, papers are mentioned on the copolymerization of cellulose esters
with other polymers. In 1958, the Leningradskiy NIIPP (Leningrad Scientific
Research Institute of Plastic Products) produced a new material of aceto-
butyrate cellulose and nitrile rubber which was nontransparent. Z. A. Rogovin
and A. A. Berlin worked in the same direction. Thin-walled acetyl cellulose
etherol products of the 2ДТ -43 (2-DT-43) type were heat-resistant only up
to 70 - 80°C. The authors used acetobutyrate cellulose of the Vladimirskiy
khimicheskiy zavod (Vladimir Chemical Plant) esterified to 38 - 44 % by
butyric acid, and combined it by means of extrusion with 6, 12, 20, 30,
40 % by weight of acryl polymers. The combination with polybutyl methacry-

Card 1/2

87878

A New Heat-resistant Casting Material on the   S/191/60/000/005/003/020
Basis of Acetobutyrate Cellulose and Poly-   B004/B064
methyl Acrylate

late did not meet the demands so that further studies were restricted to
the vitreous product from acetobutyrate cellulose and polymethyl acrylate
The resulting materials ЭЦ-12A (ETs-12A), ЭЦ-20A (ETs-20A), and ЭЦ-30A
(ETs-30A) were of high strength, high heat resistance, and high stability
to gasoline and other substances. Automobile parts (headlamp glasses,   X
steering wheels) produced from ETs-20A were stable at 110 - 130°C.
Combined polymers ММA (MMA), МA (MA), and БМ (BM) with worse properties
were produced by means of suspension polymerization in the presence of
isobutyric acid dinitrile from acetobutyrate cellulose and copolymers
from acrylic acid esters and methyl methacrylate. There are 3 figures,
2 tables, and 2 Soviet references.

Card 2/2

S/191/60/000/005/C·9/020

B004/B064

AUTHORS: Tsipes, L. Ya., Sokolov, A. D., Kochanova, M. K., Lyakina, Z. N.

TITLE: Molding of Products From Novolak Molding Material

PERIODICAL: Plasticheskiye massy, 1960, No. 5, pp. 67-69

TEXT: It is the aim of the present paper to raise the efficiency of presses by increasing the molding temperature for the production of materials from novolak molding powders of the K-15-2 (K-15-2), K-17-2 (K-17-2), K-20-2 (K-20-2), K-119-2 (K-119-2), and K-118-2 (K-118-2) types. The laboratory of the zavod "Karbolit" ("Karbolit" Plant) developed in 1938-1939 a procedure to render molding possible at 175 - 185°C with the molding material being preheated. Experiments with material preheated in a high-frequency field to 100 - 110°C showed that the product No. 3388/1 (safety cartridge), 46 mm high, wall thickness 6 mm, can be molded at 205 - 215°C, and the product No. 3388/2 (incandescent lamp socket) 28 mm high, wall thickness 4 mm, can be molded at 215 - 230°C. Thus, the time of molding was reduced without any change in strength, heat resistance, and water adsorption. M. G. Gurariy is mentioned. There are 5 tables and 6 references: 5 Soviet and 1 British.
Card 1/1

FEDOROV, S.V.; SOKOLOV, A.D.; SHCHERBAKOV, N.S.

Instrument for determining the content of magnetic inclusions in
nonmagnetic materials. (Magnetic analyzer of the MA-1 type). Plast.
massy no.8:63-64 '60.   (MIRA 13:10)
              (Materials--Analysis) (Magnetic materials)

PANOVA, N.M.; SOKOLOV, A.D.; TIMOFEYEV, A.V.; FEDOROV, S.V.

Effect of the quality of mummy on the dielectric strength of
molding powders.   Plast. massy no.12:62-64 '60.   (MIRA 13:12)
          (Plastics--Electric properties)   (Pigments)

SOKOLOV, A.D.; MIKHAYLOVA, T.N.; TIMOFEYEV, A.V.; YAKOBSON, B.V.

Factors affecting the hardening of novolac molding powders. Plast.-
massy no.10:22-24 '61.   (MIRA 15:1)
                              (Plastics--Molding)

Effect of die casting conditions ...   S/191/62/000/007/010/011
                                              B124/B144

A pressure between 100 and 200 kg/cm^2 is recommended. The fraction of the amorphous phase in polyethylene increases with increasing cooling rate of the melt; this raises also the frost resistance of the product. There are 1 figure and 1 table.

Card 2/2

IS 7210

S/191/62/000/011/004/019
B101/B186

AUTHORS: Militskova, Ye. A., Sokolov, A. D., Yezhkova, Ye. S.

TITLE: Molding materials based on polyester acrylates

PERIODICAL: Plasticheskiye massy, no. 11, 1962, 10-12

TEXT: Molding materials TMГФ-11 (TMGF-11), MГФ-9 (MGF-9), and МДФ-2 (MDF-2) polyester acrylates and powder fillers (quartz powder, talc, chalk, wood dust, etc.) are reported upon. Glass fiber used as a filler (diameter 7.3 µ, tensile strength 262 g, length 1.5-2 cm) was made water-repellent with Velan or with the preparation 246H (246 N). A paste of benzoyl peroxide and dibutyl phthalate 1:1 (2 parts by weight per 100 parts of polyester) was used as catalyst. The rate of curing and the mechanical, thermal, and electrical properties were tested. Results: (1) Molding materials containing quartz powder, talc, or fluorite as fillers needed to be worked at once, whereas materials filled with wood dust or glass fiber remained workable for 6 months. (2) Materials based on TMGF-11 with a powder filler were heat-resistant to 200°C but had an impact strength of only 4.2-4.4 kg·cm/cm^2. Materials based on MGF-9 or

Card 1/2

Molding materials based on ...

S/191/62/000/011/004/019
B101/B186

MDF-2 with a powder filler showed an impact strength of 10.3-14.5 kg·cm/cm^2 but a Martens heat resistance of only 44-54°C. (3) Molding material based on TMGF-11 and filled with glass fiber was heat-resistant to 200°C and its hardness was 24.5 kg/mm^2; but it was not as strong, as the other two molding materials. MGF-9 or MDF-2 filled with glass fiber gave a heat resistance of 45-80°C and their impact strength was increased to 100 kg·cm/cm^2 by using hydrophobic glass fiber. (4) For TMGF-11 materials, the rate of curing and the shear strength were slightly higher than for MGF-9 and MDF-2 materials. Wood dust reduced the shear strength, glass fiber raised it. (5) Increase of the molding temperature from 130 to 170°C, and of the benzoyl peroxide admixture from 0.1 to 1.0% accelerated hardening, which was virtually finished within 1.5-2 min for MDF-2 material. (6) Only glass-fiber filled products withstood the break voltage shock test at -50°C for 3 hrs, at room temperature for 2 hrs, and at 130°C for 2 hrs. (7) The breakdown voltage was 20-25 kv/mm for all products investigated. The most suitable of these materials was pressed into parts for use in the automative industry (distributor caps) at 130-135°C, a pressure of 60 kg/cm^2 and a molding time of 4-5 min. There are 2 figures.

Card 2/2

s/191/63/000/003/019/022
B101/B186

AUTHORS: Tsipes, L. Ya., Sokolov, A. D., Mel'nikov, Yu. J.

TITLE: Effect of pressure on the strength properties of standard
             samples made of phenol molding powders

PERIODICAL: Plasticheskiye massy, no. 3, 1963, 65 - 68

TEXT: The problem of transmitting pressure to the molded material and its
influence on the strength properties are discussed. The effective pressure
measured by wire strain gages and its influence was studied. A test series
in a plunger mold using pressed K-15-2 (K-15-2), K-17-2(K-17-2), K-18-2
(K-18-2), and K-20-2(K-20-2) molding powders (size of samples 120·15·10 mm
at 155°C, molding time 6 min) showed the measured pressure to be consistent
with the calculated value if the amount of molding powder filled into the
mold left a 0.3 - 0.5 mm gap between force and matrix after molding. In
this case, the values of impact and bending strengths are higher than with-
out the gap. Thus the impact strength of K-15-2 without gap is 5.4 kg·cm/cm²
the bending strength is 668 kg/cm². With a 0.3 - 0.5 mm gap, these values
are 6.3 and 946, respectively. Similar results were obtained by simul-
Card 1/2

S/191/63/000/003/019/022
B101/B186

Effect of pressure on ...

taneous molding of three tablets at 185°C, 4-5 min preheating of material at 180°C, molding time 6 min, molding pressure 250 - 300 kg/cm^2. The strength values, however, were lower than from molding of single tablets. Conclusion: Molds for standard samples must be designed such that the pressure on the material is preserved throughout the whole molding process without being reduced by a contact between force and matrix. In the "Karbolit" plant these results were applied to constructing a mold for standard samples similar to that described in DIN 53470. Six bars connected by a 1.5 mm film are molded ("chocolate bars"). Based on good experience, these molds are recommended for the production of standard samples for continuous checking of molding powders. There are 2 figures and 3 tables.

Card 2/2

SOKOLOV, A.D.

Speed of heating of thermoplastics in a loading chamber. Plast.-
massy no.7:31-37 '63.   (MIRA 16:8)
                        (Plastics--Molding)

SOKOLOV, A.D.; MIRER, Ya.S.

      Injection-molding machines abroad. Plast. massy no.8:69-70 '63.
                                          (MIRA 16:8)

          (Molding machines)

SOKOLOV, A.D.

Transfer molding of collectors made of thermosetting plastics.
Plast. massy no.11:29-31 '63.   (MIRA 16:12)

SOKOLOV, A.D.; KANAVETS, I.F.

Basic problems of rheology and hydrodynamics in thermosetting injection
processes. Plast.massy no.12:21-27 '63.   (MIRA 17:2)

S/0191/64/000/005/0027/0033

ACCESSION NR: AP4035103

AUTHORS: Sokolov, A. D.; Kanavets, I. F.

TITLE: Investigation of the processes of treating "reactoplasts" cast under pressure. Determining the technological processing ranges

SOURCE: Plasticheskiye massy*, no. 5, 1964, 27-33

TOPIC TAGS: pressure casting, rheological property, test method, testing apparatus, plastometer, curing rate, flow rate, structural mechanical property, reactoplast, extrusion, calculation, shear stress, modulus of elasticity, heat extruded plastic, plastic state

ABSTRACT: A new method was worked out for evaluating the technological properties of "reactoplasts" simulating pressure casting conditions for forming articles. Using the apparatus shown in the figure, it is possible to determine with 15-20 gm. samples the technological and rheological properties of the heat extruded plastics. Knowing the coefficient of effective viscosity, the time at which the material is in the plastic state after passing through the narrow opening, the curing rate, the gradient of the rate of flow, the shear stress, the molulus of elasticity and strength, it

Card 1/4

ACCESSION NR: AP4035103

is possible to determine rational processing ranges. The basic
parameters in pressure casting the plastics (K-18-2, FKP-1, K-114-
35, K-214-2, K-211-3 and FKPM-15T) were established and their effect
on the kinetics of curing and the structural-mechanical properties
was determined. If the flow rate is too slow the material in the
article is not uniform, resulting in low strength. Preheating the
plastic prior to filling the mold speeds up the operation and im-
proves the physical-mechanical properties of the materials. Based
on their prior works (I. F. Kanavets, Otverzhdeniye termoreaktivny*kh
pressporoshkov i method rescheta minimal'noy vy*derzhki pri presso-
vanii izdeliy iz fenoplasts "Curing of heat reactive molding powders
and method of calculating minimum holding in molding articles from
phenoplasts", Izd. Inst. tekhno. ekonom. inform. AN SSSR, 1957; A.
D. Sokolov, Plast. massy*, No. 7 (1963)), the authors worked out a
method for calculating holding time in pressure casting plastics
which insures a prescribed degree of hardening in articles of any
dimension or configuration. The following formula is applied:

$$\frac{t - t_n}{t_c - t_o} = \varphi\left(\frac{a\tau}{R^2}\right)$$

Card 2/4

ACCESSION NR: AP4035103

where t = required holding time, t_c = temperature of the mold walls, t_o = 100-120C, original temperature of the material in the mold, $\frac{a t}{R^2}$ = Fourier factor, $a = \frac{\lambda}{c\rho}$ = thermal diffusivity coefficient, λ = heat conductivity coefficient, c = heat capacity, R = thickness of article, ρ = density. Graphs showing the relationship between temperature distribution and the Fourier criterion and monograms for determining holding time without accounting for time for filling the molds are given in the references cited. Orig. art. has: 7 figures, 4 equations and 5 tables

ASSOCIATION: None

SUBMITTED: 00   ENCL: 01

SUB CODE: MT   NR REF SOV: 009   OTHER: 000

Card 3/4
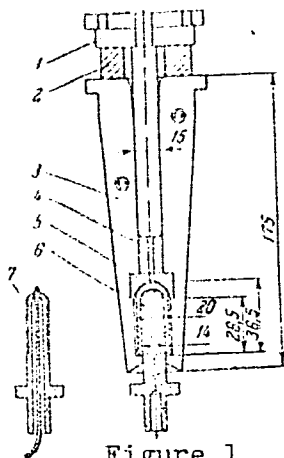
Figure 1

Die for the plastometer. 1--plunger; 2--mantle; 3--split die; 4,5--gates; 6--shaft; 7--shaft with thermocouple for measuring material temperature of emerging from the gates.

Card 4/4

ACCESSION NR: AP4039945   S/0191/64/000/006/0023/0028

AUTHOR: Sokolov, A. D.; Kanavets, I. F.

TITLE: Investigation of the process of reworking plastics into articles by the method of casting under pressure. Mechano-chemical effects.

SOURCE: Plasticheskiye massy*, no. 6, 1964, 23-28

TOPIC TAGS: pressure casting, plastic, plastic fabrication, mechanical chemical effect, Kanavets plastometer, shear stress, relative deformation, mechanical molecular rupture, viscous flow, chemical flow, hardening rate, curing rate, brittleness, test apparatus

ABSTRACT: The influence of mechano-chemical effects on the properties of plastics was evaluated by quantitative indexes which can be used for controlling the preparation of extruded materials and their reprocessing into articles. Since methods and apparatus used for evaluating plastic properties do not reflect the mechano-chemical effects in the materials, a new method was worked out. The mechanical rupture of the molecule chains during processing causes the development of different chemical reactions initiated by the radicals formed. The plastic

Card   1/4

ACCESSION NR: AP4039945

flow during this reprocessing is "viscous" and "chemical flow", their ratio depends on temperature and mechanical effects. These can be evaluated by measuring the time the material is in the viscous state, the rate of hardening, and the structural mechanical properties of the materials. The Kanavets plastometer (fig. 1), designed to subject the materials to significant mechanical stresses simulating the properties of extruded materials subjected to plastic deformation during fabrication, was used in the tests run on K-18-2, K-214-2, K-211-3, and FKPM-15T resins (based on novolac and resol resins, and these resins mixed with rubber, wood and mineral fillers). Measurements of the shear stress and relative deformation of these resins cast under pressure showed they were more brittle than when molded. It was found that flowing the plastic materials in narrow channels with greater speed gradients causes a decrease in the effective viscosity and in the duration of the plastic-viscous state, and an increase in the curing rate. This increased curing rate is desirable since production can be increased, but it is accompanied by undesirable brittleness. The proposed method is suggested for evaluating the technological properties to establish a reasonable pressure for casting conditions. Orig. art. has: 8 figures and 1 table.

Card 2/4

ACCESSION NR: AP4039945

ASSOCIATION: None

SUBMITTED: 00

SUB CODE: MT

ENCL: 01

NO REF SOV: 023

OTHER: 002

Card   3/4

SOKOLOV, A.D.

Development of a thermosetting plastics molding machine. Plast.
massy no.8:41-43 '64.   (MIRA 17:12)

L 23636-65   EWT(m)/EWP(j)   Pc-4   RM

ACCESSION NR: AP5002824   S/0191/65/000/001/0023/0027

AUTHOR: Militskova, Ye. A.; Viktorov, Ye. S.; Sokolov, A.D.; Kostikov, V.P.

TITLE: The die casting of polyformaldehyde

SOURCE: Plasticheskiye massy, no. 1, 1965, 23-27   B

TOPIC TAGS: polyformaldehyde, die casting melt index, impact toughness, bending strength, frost resistance, polymer crystal structure, mold stability, polymer inflammability, plastic casting

ABSTRACT: The authors investigated the conditions of die casting and the properties and fields of application of cast polyformaldehyde (PFA). The construction and outfitting of the die machine (heating cylinder, jet, die mold and temperature control) and the casting technique are described in detail. The die casting of PFA is possible only in a narrow temperature interval, 180-195C being most common. The stay of the material in the cylinder is calculated by formula; for a die machine with a plunger diameter of 40 mm and a 210C cylinder temperature, the time is 60 min. The optimum mold temperature (determined by article thickness) is 130C, the optimum casting pressure is 1200-1500 kgc/cm^2, and the duration of the casting cycle is about 10 sec./mm of article thickness. The casting temperature is dependent on the melt index of the PFA. Articles made from

Card   1/2

L 23636-65
ACCESSION NR: AP5002824   2

PFA are distinguished by their high impact toughness. An increase in the melt index produces a decrease in the impact toughness and bending strength. Frost resistance measurements show that the stability of PFA decreases at -40C, but still remains rather high. The crystal structure of PFA and its high melting point contribute to its mold stability at increased temperatures. PFA is stable in most inorganic and organic solvents and has a low inflammability. The physical-mechanical properties of PFA decline after recasting. Because of its high stability to wear, low coefficient of friction, dimensional and high-temperature mold stability, PFA can be used for the production of bearing, gears and latches. "V.P. Zhuravlev took part in designing the casting machine and L.A. Zavyalina took part in working out the casting conditions." Orig. art. has: 6 tables, 2 figures and 2 formulas.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MT

NO REF SOV: 000   OTHER: 005

Card 2/2

L 23637-65   EWT(m)/EPF(c)/EWP(j)   Pc-4/Pr-4   RM

ACCESSION NR: AP5002825   8/0191/65/000/001/0027/0032

AUTHOR: Sokolov, A.D.; Kanavets, I.F.

TITLE: The effect of the molding conditions of thermosetting resins on the mechanical
strength of the manufactured products

SOURCE: Plasticheskiye massy, no. 1, 1965, 27-32

TOPIC TAGS: thermosetting resin, resin molding, injection molding, molding tempera-
ture, molding pressure, polymer mechanical property, reinforced polymer, phenol
formaldehyde resin, novolak resin, polymer crosslinking

ABSTRACT: The effect of molding conditions and of reinforcing metal inserts on the
strength of thermosetting resins was studied, using equipment which permitted molding
under direct pressure and injection molding under varying conditions of temperature,
pressure, and injection orifices to produce specimens of selected shape. Thermosetting
compositions K-214-2, K-18-2, and FKPM-15T were tested, based on novolak and resol
phenol-formaldehyde resins. Samples prepared from K-214-2 by injection molding had
a similar tensile strength to specimens prepared at the same temperature under 300-400
kg/cm2 direct pressure. For FKPM-15T, a rubber-modified novolak resin, the tensile
strength increased with the dimensions of the injection orifice up to an orifice diameter of

Card 1/2

L 23637-65
ACCESSION NR: AP5002825

5 mm, while the elasticity decreased. The mechanical strength of the specimen was not affected by sample thickness or by orientation in the injection direction. The strength, however, decreased if intersecting injection streams were used, and failure occurred at the seam. The temperature optimum for mechanical strength depended on the degree of crosslinking achieved and on the chemical properties of the resin. Steel or brass inserts decreased the tensile strength of molded products and this effect increased with the thickness of the inserts; it was negligible for inserts of 1.5 mm thickness or less. An adhesive force of 28-106 kg/cm^2 was measured between resins and metallic inserts. Orig. art. has: 8 figures and 7 tables.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MT

NO REF SOV: 008   OTHER: 004

Card 2/2

MILINKOVA, Ye.A.; VILPERA, Ye.I.; SHISHKOV, A.B.; SHISHKOV, V.I.

Molding of polyformaldehyde by die casting. Plast. massy no.1:23
'65.
(MIRA 18:4)

SOKOLOV, A.D.; KANAVETS, I.F.

Determination of the rheological properties and molding parameters
of thermosetting plastics under injection molding conditions.
Plast. massy no.3:18-23 '65.   (MIRA 18:6)

TURAPOV, A.; SOKOLOV, A.D.

    Studying the curing process of polyester resins and their compositions.
Plast. massy no.7:17-21 '65.   (MIRA 18:7)

[illegible text]

... an active filter for molding powder [illegible]
[illegible] nr.2:96-98 '65.

(illegible)

L 39686-66   EWP(j)/EWT(m)/T   IJP(c)   RM/GD-2

ACC NR: AP6009533   (N)   SOURCE CODE: UR/0413/66/000/005/0069/0069

INVENTOR: Pevzner, L. V.; Akutin, M. S.; Mikheyev, I. P.;   /8
Faydel', I. Ya.; Sokolov, A. D.; Timofeyev, A. V.   B

ORG: none

TITLE: Method for obtaining compacts. Class 39, No. 179466

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
no. 5, 1966, 69

TOPIC TAGS: polyvinyl chloride, phenolformaldehyde, compact

ABSTRACT: An Author Certificate has been issued for a method of ob-
taining compacts by combining phenol resin with polyvinyl chloride in
the filler, using a mechanochemical   method. Phenol resins and aniline-
phenolformaldehyde resins are used to obtain materials which are
impervious to water, chemical, and tropical conditions.   [NT]

SUB CODE: 11, 07/   SUBM DATE: 27Nov64/

Card 1/1   UDC: 678.632.743.22.067.023.32

L 06173-67   EWT(a)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(l)   IJP(c)

ACC NR: AP6032410   SOURCE CODE: UR/0089/66/021/003/0223/0224

AUTHOR: Matveyev, V. V.; Sel'dyakov, Yu. P.; Sokolov, A. D.

ORG: none

TITLE: The first domestic industrial apparatuses with semiconductor electron-hole detectors

SOURCE: Atomnaya energiya, v. 21, no. 3, 1966, 223-224

TOPIC TAGS: detection equipment, detection system, particle beam, nuclear physics apparatus, ELECTRON HOLE, SEMICONDUCTOR DEVICE, ALPHA PARTICLE DETECTOR, ALPHA SPECTRUM

ABSTRACT: The development of a system of detecting devices using semiconductors is reported. The system designated 9063-02 ("Amur 1") includes the following units: 1) The 6965-02 detecting unit designed for precise spectrometric measurements of α-particle flux for energies up to 5 Mev. The resolution of the unit is 1% and its size is 194 x 220 x 168 mm. 2) The 6965-01 all-purpose detecting unit which makes spectrometric measurements of α-particle flux with 1—3% resolution for energies of 5 Mev. Dimensions of the unit are 90 x 76 x 100 mm. 3) The 6465-01 detecting unit, which registers α-particles from open surfaces. Its resolution for α-particles with energies of 5 Mev is 13%. The unit can be used for determining the degree of contamination by α-radiating isotopes. It is 42 mm in diameter and 80 mm high. 4) The 6845-01 detecting unit which registers thermal neutrons with 0.1% efficiency; its diameter is 42 mm, and its height, 80 mm. 5) The 514-05 preamplifier which provides three

Card   1/2

L 06173-67

ACC NR: AP6032410

amplification ranges corresponding to energies of 0—10, 0—30, and 0—100 Mev.
When the device operates at 0—10 Mev, the equivalent noise level does not exceed
10 kev and its sensitivity is 2 x 10^{12} /coul.   6) The amplifier blocks which includes
a 514-03 amplifier, a 503-68 supply voltage indicator and BN-40 and BN-34 power
supplies.

SUB CODE:18,20/ SUBM DATE: none

Card 2/2

L 07982-67   EWT(m)/EWP(t)/ETI   IJP(c)   JD/HW/GD

ACC NR: AT6028980
                                                SOURCE CODE: UR/0000/66/000/000/0108/0111

AUTHOR: Sokolov, A. D.

ORG: none

TITLE: On the problem of thermomagnetic treatment of nickel-zinc-cobalt ferrites

SOURCE: Vsesoyuznoye soveshchaniye.po ferritam. 4th, Minsk. Fizicheskiye i
fizikokhimicheskiye svoystva ferritov (Physical and physicochemical properties of
ferrites); doklady soveshchaniya. Minsk, Nauka i tekhnika, 1966, 108-111

TOPIC TAGS: nickel, zinc, cobalt, ferrite, hysteresis loop, magnetic hysteresis,
thermomagnetic effect

ABSTRACT: The kinetics of constricted hysteresis loop changes during thermo-
magnetic treatment (TMT) is investigated in nickel-zinc-cobalt ferrites. Three
types of specimens were prepared, each in the form of 20-mm external diameter,
14-mm internal diameter cakes, sintered at three different temperatures; 1200,
1280, and 1330C, in air for 15 hrs. The kinetics of the transformation process
during the thermomagnetic treatment was observed on oscillographs. The TMT was
carried out under constant temperature conditions in the range 300—420C, in a

Card 1/2

L 07982-67

ACC NR: AT6028980

field strength of 40 oersteds. Analysis of the results show that the transformation of constricted hysteresis loops in rectangle can be expressed satisfactorily by the formula

$$\sigma(t) - \sigma(\infty) = A e^{-\frac{t}{\tau}},$$

where $\sigma = B_r/B_m$ is the "squareness" coefficient and τ is the relaxation time given by

$$\tau = \tau_\infty e^{\frac{E}{KT}}.$$

The experimental results are given as plots of σ versus time with temperature as a parameter. Also, the activation energy E and the relaxation times associated with the TMT process are determined. Orig. art. has: 2 figures, 2 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 22Dec65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

GRUMBKOV, A.P.; MATVEYEV, V.V.; SEMENOV, G.S.; SOKOLOV, A.D.

Using scintillation instruments in oil and gas prospecting.
Geol. nefti i gaza 4 no. 3:33-37 Mr '60.   (MIRA 13:12)

1. Institut geologii i razrabotki goryuchikh iskopayemykh
AN SSSR.   (Scintillation counters)

L 17692-63   EWT(1)/EWP(q)/EWT(m)/BDS   AFFTC/ASD/ESD-3   JD

ACCESSION NR: AP3004887   S/0120/63/000/004/0046/0048

AUTHOR: Matveyev, V. V.; Panova, V. P.; Resskazikhina, T. F.; Sokolov, A. D.

TITLE: Fast neutron spectrometry using scintillating lithium iodide single crystals

SOURCE: Pribory* i tekhnika eksperimenta, no. 4, 1963, 46-48

TOPIC TAGS: spectrometry, fast neutron, single crystal, lithium iodide crystal, lithium iodide, fast neutron measurement, fast neutron spectrometry, scintillation crystal decay time, light yield

ABSTRACT: The characteristics of a fast neutron spectrometer using lithium iodide crystals activated with europium and a method for measuring fast neutron spectra in the presence of an intense γ-background are described. The LiI(Eu) crystals were grown by the Stockbarger method at the Institut Kristallografii AN SSSR (Institute of Crystallography of the Academy of Sciences SSSR). The crystals were colorless and transparent. The measurements show that the light yield of the crystals in the region of 4630 Å is approx. 20-30% of that of standard NaI(Tl) crystals. The measured decay time of the crystals was approx. 1.4 μsec. In order to obtain measurements with minimum possible distortions, two crystals with identical decay times, differing significantly in sensitivity to fast neutrons

Card 1/2

SOKOLOV, A. D.

Topography of the nerves of the abdominal wall. Arkh. anat. gist. i
embr. 31 no.4:43-49 O-D '54.   (MLRA 8:2)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii (zav.
zasluzhennyy deyatel' nauki prof. A.Yu.Sozon-Yaroshevich) Leningrad-
skogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
        (ABDOMINAL WALL, innervation.)

L 36271-65   EWT(m)/EPF(o)/EWP(j)   Pc-4/Pr-4   RM

ACCESSION NR: AP5008194   S/0286/65/000/005/0069/0070

AUTHORS: Faydel', I. Ya.; Sokolov, A. D.; Timofeyev, A. V.; Yakobson, B. V.;
Ust'kachkintsev, A. N.; Veselov, N. N.

TITLE: A method for obtaining phenolic aldehyde pressing powders. Class 39, No.
168873

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 69-70

TOPIC TAGS: phenolic aldehyde, pressing powder, filler, coal, ash

ABSTRACT: This Author Certificate presents a method for obtaining phenolic aldehyde
pressing powders with the application of mineral filler. To broaden the assortment
of fillers and lower the cost of the powders, ash resulting from burning of brown
coal is used as the filler.

ASSOCIATION: none

SUBMITTED: 25Jul62   ENCL: 00   SUB CODE: MT

NO REF SOV: 000   OTHER: 000

Card 1/1

TURSKIY, Yu.I.; SEMENOV, S.S.; SOKOLOV, A.D.; SLOBODCHIKOV, B.D.

Dephenolization of waste water in East European countries. Gaz. prom.
no.2:54-56 F '58.   (MIRA 11:2)
          (Europe, Eastern--Sewage--Purification)   (Phenols)

SOKOLOV, A.D.

Plant quarantine import restrictions. Zashch. rast. ot vred. i
bol. 3 no.5:42-43 S-O '58.   (MIRA 11:10)

1. Nachal'nik Gosinspektsii po karantinu sel'skokhozyaystvennykh
rasteniy Ministerstva sel'skogo khozyaystva SSSR po Leningradskoy
oblasti.
                    (Plant quarantine)

SOKOLOV, A.D., inzh.

Study of chalk and marl rocks as foundation beds for hydraulic
structures. Gidr.stroi. 34 no.11:30-32 N '63.   (MIRA 17:3)

Sokolov, A.D.

PHASE I BOOK EXPLOITATION   SOV/3600

Yadernaya geofizika; sbornik statey po ispol'zovaniyu radioaktivnykh izlucheniy i izotopov v geologii nefti (Nuclear Geophysics; Collection of Articles on the Use of Radioactive Radiation and Isotopes in Petroleum Geology) Moscow, Gostoptekhizdat, 1959. 370 p. Errata slip inserted. 4,000 copies printed.

Ed.: F.A. Alekseyev, Professor, Doctor of Geological and Mineralogical Sciences; Exec. Ed.: A.P. Eskaratov; Tech. Ed.: A.S. Polosina.

PURPOSE: This book is intended for petroleum geologists, geophysicists and scientists engaged in geological research who are interested in radiometric techniques of petroleum prospecting.

COVERAGE: The collection contains 28 articles compiled by staff members and aspirants of the Laboratory for Nuclear Geology and Geophysics of the Petroleum Institute (now the Institute for Geology and Mineral Fuel Processing) of the Academy of Sciences USSR, the Laboratory for Radioactive Logging of the All-Union Scientific Research Institute of Geophysics, and the basis of councils for planning research projects for petroleum enterprises. The articles treat new material on radiometric surveying in petroleum geology, describe radiometric instruments (counters, etc.) for registering neutrons and gamma rays, give the results of research with models of rock strata, introduce fundamentals of a new method for effectively utilizing radioactivity in the analysis of rock samples from petroleum-survey bore holes, etc. Problems of method in the study and interpretation of radiometric measurements in bore holes are reviewed, as well as the results of studies in the nonabsorption of tritium in tracing the movement of petroleum and water in a stratum. Finally, a new method of surveying based on measuring the radioactivity of the surface of a prospective petroleum deposit is described. No personalities are mentioned. References accompany each article.

Grushkov, A.P., V.V. Matveyev, O.S. Sergeev, and A.D. Sokolov. Radio-meter-Analyzer "Kristall" and Its Use in Radiometric Oil and Gas Prospecting   279

Matveyev, V.V., and A.D. Sokolov. Scintillation Liquid Radiometer-Analyzer "Kristall" for Aerial Prospecting   290

Grushkov, A.P. Experiment in the Separate Registration of the Thorium and Radium Components of Gamma Radiation When Prospecting With Auto-mobile-Mounted Radiometers   300

Filippov, Ye.M. Some Problems in the Methodology and Theory of the Gamma-Gamma Method   306

Zolotov, A.V. Effective Cross Sections of Chlorine for Slow Neutrons   312

Yeroolinskiy, B.G., and A.S. Shkol'nikov. A Method of Separating Oil- and Water-Bearing Strata, Based on Use of a Pulsating Neutron Source   337

Bespalov, D.F., and A.I. Zhmutov. A High Voltage Source of 100 Kv for Neutron Generators Used in Cased Wells   346

Yeroolinskiy, B.G., L.I. Bondarenko, L.R. Voytsik, Yu. S. Shimelevich, and L.I. Yulin. A Small-Sized Sealed Neutron Tube   351

Voytsik, L.R., and B.G. Yeroolinskiy. A Laboratory Neutron Generator   356

AVAILABLE: Library of Congress

SOKOLOV, A.D.; MOROZOVA, N.K.

Effect of testing conditions on the impact strength of phenoplasts.
Zav.lab. 27 no.10:1305-1307 '61.   (MIRA 14:IO)

1. Zavod "Karbolit".
                      (Phenol condensation products)

SOKOLOV, A.D.

Quarantine service in Leningrad Province. Zashch. rast. ot vred.
i bol. 10 no.5:2-6 '65.   (MIRA 18:6)

1. Nachal'nik Leningradskoy karantinnoy inspektsii.

GORDEYEV, Vasiliy Aleksandrovich; NEKRASOV, Konstantin Pavlovich;
VOLKOV, Pavel Vasil'yevich; SIMAKIN, V.V., retsenzent; SOKOLOV,
A.F., spets. red.; SIDOROV, Yu.P., spets. red; AKSENOVA, I.I.,
red.; VINOGRADOVA, G.A., tekhn. red.

[Cotton weaving] Khlopkotkachestvo. Moskva, Izd-vo nauchno-
tekhn. lit-ry RSFSR, 1961. 517 p.   (MIRA 15:1)
        (Cotton weaving)   (Looms)

SOKOLOV, A.F., kand.sel'skokhozyaystvennykh nauk

New method of harvesting hay. Mekh. i elek. sots. sel'khoz.
16 no.4:57-58 '58.   (MIRA 11:10)
                (Hay--Harvesting)

SOKOLOV, A.F., kand.sel'skokhozyaystvennykh nauk

Recent developments in hay harvesting and processing machinery.
Mekh.i elek.sots.sel'khoz. 17 no.5:59-61 '59.
(MIRA 12:12)
(Hay--Harvesting) (Agricultural machinery)

VOLKOV, Yu.I., inzh.; GAFANOVICH, A.A., kand.tekhn.nauk; GLADKOV, N.G.,
kand.sel'skokhoz.nauk; GORKUSHA, A.Ye., agr.; ZHITNEV, N.F., inzh.;
ZANIN, A.V., kand.tekhn.nauk; ZAUSHITSYN, V.Ye., kand.tekhn.nauk;
ZVOLINSKIY, N.P.; ZEL'TSERMAN, I.M., kand.tekhn.nauk; KAIPOV, A.N.,
kand.tekhn.nauk; KASPAROVA, S.A., kand.sel'skokhoz.nauk; KOLOTUSHKINA,
A.P., kand.ekon.nauk; KRUGLYAKOV, A.M., inzh.; KURNIKOV, I.I., inzh.;
LAVRENT'YEV, L.N., inzh.; LEBEDEV, B.M., kand.tekhn.nauk; LEVITIN,
Yu.I., inzh.; MAKHLIN, Ye.A., inzh.; NIKOLAYEV, G.S., inzh.;
POLESHCHENKO, P.V., kand.tekhn.nauk; POLUNOCHEV, I.M., agr.; P'YANKOV,
I.P., kand.sel'skokhoz.nauk; RABINOVICH, I.P., kand.tekhn.nauk;
SOKOLOV, A.F., kand.sel'skokhoz.nauk; STISHKOVSKIY, A.A., inzh.;
TURBIN, B.G., kand.tekhn.nauk; CHABAN, I.V., inzh.; CHAPKEVICH, A.A.,
kand.tekhn.nauk; CHERNOV, G.G., kand.tekhn.nauk; SHMELEV, B.M., kand.
tekhn.nauk; KRASNICHENKO, A.V., inzh., red.; KLETSKIN, M.I., inzh.,
red.; MOLYUKOV, G.A., inzh., red.; BLAGOSKLONOVA, N.Yu., inzh., red.;
UVAROVA, A.F., tekhn.red.

[Reference book for the designer of agricultural machinery in two
volumes] Spravochnik konstruktora sel'skokhoziaistvennykh mashin
v dvukh tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
lit-ry. Vol.1. 1960. 655 p.   (MIRA 13:11)
        (Agricultural machinery--Design and construction)

CHERNYY, Mikhail Davydovich [deceased]; TUMAYAN, S.A., retsenzent;
SHCHENKOV, S.N., retsenzent; SOKOLOV, A.F., retsenzent;
SIMONOV, N.S., kand. tekhn.nauk, red.; SHTEYNGART, M.D.,
red.; VINOGRADOVA, G.A., tekhn. red.

[Reeling and silk twisting] Kokonomotanie i shelkokruchenie.
Moskva, Gizlegprom, 1963. 519 p.   (MIRA 16:10)
                    (Silk manufacture)

S/169/62/000/001/017/083
D228/D302

AUTHORS: Koryagin, V. V. and Sokolov, A. F.

TITLE: Transverse profiling in the reflection method

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 27, ab-
             stract 1A225 (V sb. Razved. i promysl. geofiz., no.
             40, M., 1961, 8-17)

TEXT: Peculiarities are considered in tracking reflected waves
when working according to the method of conjugate non-longitudinal
profiles with symmetrically disposed detonation points. The follow-
ing advantages of the described method are noted in comparison with
the results obtained on longitudinal profiles: 1) The improved
tracking of reflections, especially from shallow-lying boundaries,
and 2) the greater accuracy for calculating the effective velocity.
Methods of processing the obtained material -- calculating the ef-
fective velocity and determing the position of the reflecting boun-
daries -- are described, these being valid for areas with seismic
boundaries inclined at small angles. /Abstractor's note: Complete
translation. 7
Card 1/1

ACCESSION NR: AT4016744   S/2604/63/000/049/0012/0019

AUTHOR: Koryagin, V. V.; Sokolov, A. F.

TITLE: Interference waves from steeply pitched boundary surfaces

SOURCE: Moscow. Vses. n.-i. inst. geofiz. metodov razvedki. Razvedochnaya i promyslovaya geofizika (Prospecting and industrial geophysics), no. 49, 1963, 12-19

TOPIC TAGS: geophysics, boundary surface, interference wave, logging

ABSTRACT: The investigation considers one of the types of interference registered mainly in the border zones of the Pre-Pliocene erosion. The time of arrival of such interference waves varies from 0.6 to 1.9 sec. In order to study the formation of these waves, seismic receivers were spaced 5 m apart. It was found that the intensity and quantity of interference depends on the blast depth. Further, it was shown that the formation of interference waves is connected with the Pre-Pliocene reflecting surface. The authors also describe the different modes of dissemination of interference waves. These paths may be combined in a single stratum. It is very important in studying interference waves to consider the fields of registration. The knowledge of interference waves and kinematic features allows one to forecast their appearance on the seismograph. The best way of elimi-

Card 1/2

ACCESSION NR: AT4016744

nating interference is to combine grouping of explosions and grouping of seismic
receivers. Orig. art. has: 10 formulas and 7 figures.

ASSOCIATION: Vses. n.-i. inst. geofiz. metodov razvedki, Moscow (All-Union
Scientific Research Institute of Geophysical Prospecting)

SUBMITTED: 00   DATE ACQ: 13Feb64   ENCL: 00

SUB CODE: ES   NO REF SOV: 003   OTHER: 001

Card 2/2

SOKOLOV, A.F.

Processing the refractive hodographs of first arriving waves in observations by the reflection method. Razved. i prom. geofiz. no.49:32-38 '63   (MIRA 17:7)

SOKOLOV, A.F.

Features and possibilities of the reflection prospecting method in the study of shallow horizons. Geofiz. razved. no.16:3-17 '64.

(MIRA 18:2)

USHAKOV, G.N., LITKIN, V.B., KOCHETKOV, L.A., POPOV, V.V., BELINSKAYA, N.T., SOKOLOV, A.F.

The operating experience with the steam generators of the first atomic power station.

Report submitted for the Conference on Operating experience with the power reactors, Vienna, 4-8 June 63

REMENTSOVA, M.M.; GALUZO, I.G., akademik, red.; SOKOLOV, A.G., red.
        [deceased]; RZHONDKOVSKAYA, L.S., red.; KHUDYAKOV, A.G.,
        tekhn. red.

[Brucellosis in wild animals]Brutsellez dikikh zhivotnykh.
Pod red. I.G.Galuzo. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi
SSR, 1962. 254 p.   (MIRA 15:12)

1. Akademiya nauk Kazakhskoy SSR (for Galuzo).
        (BRUCELLOSIS) (ANIMALS AS CARRIERS OF DISEASE)

SOKOLOV, A.G.

Second All-Union Conference on Problems in Terrestrial Zoogeography.
Nauch. dokl. vys. shkoly; biol. nauki no.3:197-198 '61.
(MIRA 14:7)

(ZOOGEOGRAPHY—CONGRESSES)

YANULOVA, Marina Konstantinovna; BOK, I.I., akad., otv. red.; SOKOLOV, A.G., red.; ROROKINA, Z.P., tekhn. red.

[Mineralogy of the Karagayly skarn-barite-complex ore deposit (Central Kazakhstan)] Mineralogiia skarnovo-barito-polimetallicheskogo mestorozhdeniia Karagaily (TSentral'nyi Kazakhstan) Alma-Ata. Vol.1. [Hypogenic mineralization] Gipo-gennaia mineralizatsiia. 1962. 240 p.   (MIRA 15:5)

1. Akademiya nauk Kazakhskoy SSR (for Bok).
         (Karagayly region (Kazakhstan))--Ore deposits)

SOKOLOV, A.G.

Intake properties of wells when using vacuums at well heads. Trudy
Giprovostoknefti no.3:322-326 '61.   (MIRA 14:12)
(Oil reservoir engineering)

SOKOLOV, A.G.

Quantitative analysis of mixtures of p- and m-diacetylbenzene
by their ultraviolet absorption spectra. Zhur. anal. khim. 19
no.3:397-398 '64.   (MIRA 17:9)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov
i organicheskikh produktov, Moskva.

SOKOLOV, A.G.

Creep in clayey soils saturated with water. Nauch.-tekh.inform.
biul.LPI no.1/2:147-155 '58.   (MIRA 12:6)
                    (Soil mechanics)

SOKOLOV, A.G.

        Device for measuring cones. Stan.i instr. 32 no.11:39 N '61.
                                               (MIRA 14:10)
                   (Measuring instruments)

SOV/112-59-3-5651

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 199 (USSR)

AUTHOR: Sokolov, A. G., and Kuramshin, Yu. N.

TITLE: Use of a Dilatometer for Thermocontrol in Automatic Water-Gauge Tanks
(Primeneniye dilatometra dlya termoregulirovaniya v avtovodomernykh
bachkakh)

PERIODICAL: Khlebopek. i konditersk. prom-st', 1958, Nr 2, pp 10-13

ABSTRACT: It is recommended that a dilatometer be used in thermostats and in
automatic continuous mixers. To increase dilatometer sensitivity, a
construction is suggested in which both the central invar rod and the outer tube
are washed with water. Methods used and results of experiments using the
dilatometer in tanks and mixers are described. Six illustrations.

B.A.K.

Card 1/1

Sokolov, A. G.

LILEYEV, A.F., inzhener; MILLER, V.Ya., inzhener; SOKOLOV, A.G.,
laureat Stalinskoy premii.

Steel elements for standard blast furnaces with a volume of 1513
cubic meters. Stroi.prom. 33 no.12:30-37 D '55.   (MLRA 9:3)
(Blast furnaces)

FILIPPOV, Ivan Ivanovich; SOKOLOV, Aleksey Grigor'yevich; KHEYFETS, S.,
otvetstvennyy redaktor; PROSHINA, L., redaktor izdatel'stva;
DZHATIYEV, S., tekhnicheskiy redaktor

[Financing city and district enterprises] Finansirovanie gorodskogo
i raionnogo khoziaistva. Moskva, Gosfinizdat, 1957. 173 p.
        (Finance)   (MLRA 10:9)

10(2)

AUTHORS: Grigoryan, S. S., Sokolov, A. G., Spasibukhov, Yu. I.

SOV/20-124-1-12/69

TITLE: On the Application of Similarity to the Motion of a Massive Solid Under the Action of a Shock Wave (O modelirovanii dvizheniya massivnogo tverdogo tela pod deystviyem udarnoy volny)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 48-50 (USSR)

ABSTRACT: Under certain conditions an explosion wave may considerably displace a solid body, throw it into the air, or turn it over, etc, without directly destroying it. The theoretical investigation of these phenomena presents considerable mathematical difficulties, and therefore they must be experimentally investigated with the aid of models. The authors give a strict and complete specification of rules concerning these phenomena, employing the usual method of analyzing dimension numbers as well as the theory of similarity. Also a specific property of the problem discovered by Ya.B. Zel'dovich (Ref 1) is used, which shows the following: in the action of an explosion wave upon a massive body, the latter cannot be displaced to any considerable extent as long as the wave still acts upon it. According to these rules the application of similarity is relatively simple. Formulas are derived for the velocity of the center of mass and for the momentary angular velocity of the body

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SOV/20-124-1-12/69

On the Application of Similarity to the Motion of a Massive Solid Under the
Action of a Shock Wave

due to the action of the wave. Next, the equations of motion of
the body are explicitly written down. The following rules for the
application of similarity are developed: for a similarity between
nature and the model all geometric characteristics of the pheno-
menon must be similar and, besides, the dimensionless arguments
of certain functions defined in this paper, which correspond to
one another, must be equal to one another. The here derived rules
only make it necessary that in the model as well as in the natural
body the dimensionless principal moments of inertia be equal to
one another and that certain of the conditions mentioned here be
satisfied. In the case of a special method of modelling, which is
interesting and possible in a number of cases, the following holds:
only the dimensions of the body and the distribution of the mass
it contains change in the model. This is brought about either by
causing the time dependence of the center of mass in the body and
in nature to be equal (and not similar!) to each other, or by the
fact that the laws governing the rotation of the body round its
center of mass are the same in the model and in nature. Such an
application of similarity, which is described as synchronous, may
Card 2/3   be of use in some cases. The authors thank L. I. Sedov for his

SOV/20-124-1-12/69

On the Application of Similarity to the Motion of a Massive Solid Under the
Action of a Shock Wave

appraisal of the paper, and M. A. Sadovskiy for raising the problem
and assisting in solving it.-There are 3 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: August 8, 1958, by L. I. Sedov, Academician

SUBMITTED: June 20, 1958

Card 3/3